

**PLASTIC LAMINATED EDGE PROTECTOR**

**Inventor:**

**Don Schroeder**

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**ANDRUS, SCEALES, STARKE & SAWALL**

**100 East Wisconsin Avenue, Suite 1100**

**Milwaukee, WI 53202**

**Phone: (414) 271-7590**

**Fax: (414) 271-5770**

## PLASTIC LAMINATED EDGE PROTECTOR

### FIELD OF THE INVENTION

The present invention relates to elongated edge protectors for protecting an edge or corner of an item being shipped or transported. More specifically, the present invention relates to an elongated edge protector having a core formed from laminated strips of paperboard and an outer protective layer of plastic adhered thereon.

### BACKGROUND OF THE INVENTION

Packages, articles, products, palletized loads, and the like are often subject to damage during shipping or transit from one place to another. As a result, it is customary in the packaging and shipping industry to provide means for protecting these various items being shipped. For example, edge or corner protectors are commonly secured to the edges or corners of the item to provide cushioning and protection. Edge or corner protectors are typically formed from one or more pieces of paperboard, cardboard and/or corrugated cardboard folded into a rigid V-shaped member having a pair of transversely oriented leg members joined at a generally curved apex.

A number of these types of edge or corner protectors are shown and described in the art. For example, Liebel U.S. Patent No. 4,865,201 discloses a laminated corrugated paper corner post. The corner post has inner and outer members each formed of multiple layers of paperboard laminated together and formed into elongated right angles. A core of corrugated paper is disposed between the inner and outer members and has a series of axially aligned flutes extending generally perpendicular to the elongated legs.

Liebel U.S. Patent No. 5,131,541 discloses a corner post comprising a right angled corrugated board having a plurality of plies of paper laminated together and formed into a rigid right angle. The laminated plies are laminated to the inner face of the corrugated board for strength and rigidity.

Liebel U.S. Patent No. 5,181,611 discloses a corner post including a right angle paper member having an apex with a dense right angle paper spine. The corner post has adhesive extending between the spine and the apex.

DeReu et al U.S. Patent No. 5,813,537 discloses an edge or corner protector having a core member with leg members disposed at a 90° angle and

laminated layers of paper disposed upon the interior surface portions of the leg members. The laminated layers have different width dimensions so as to render the leg with different thickness dimensions as one proceeds away from the apex portion of the edge protector toward the distal end portions of the edge protector.

5 Markert et al U.S. Patent No. 6,527,119 discloses an edge or corner protector having a pair of leg members extending away from the apex portion so as to define an angle of approximately 90° therebetween. The apex and leg members are defined by a plurality of paper plies which have at least two different width dimensions.

However, known edge or corner protectors are themselves susceptible to  
10 damage during transport and damage from the elements, such as extreme weather conditions. Often, items being shipped are stored for long period of time, many times in outdoor, unprotected storage areas. As such, these items are subjected to snow, wind, rain or moisture, which can degrade the quality of the edge or corner protector and limit its useful life. Additionally, when currently available laminated paperboard  
15 corner protectors are subjected to moisture, the paperboard material deteriorates and may stain or mark the product surface.

It is therefore desirable to provide an improved more durable edge or corner protector that resists damage normal use. It is desirable to provide such an improved edge or corner protector that resists moisture and as such sustains a longer  
20 useful life. It is desirable to provide such an improved durable edge or corner protector that resists wear and tear yet also provides ample protection and cushioning to an item being shipped.

#### SUMMARY OF THE INVENTION

The present invention provides such a durable edge or corner protector  
25 which resists damage from normal use and resists wear and tear caused by external elements such as for example rainy weather.

The edge protector for protecting an edge or corner of an article includes a plurality of paperboard plies laminated together and formed into a rigid substantially right angled member. The right angled member has a pair of transversely oriented legs  
30 joined at an apex, each of the apex and the legs having inside and outside faces. A layer of plastic laminate is adhered to at least the outer faces of the legs and apex.

In a preferred embodiment, the edge or corner protector includes a paper label laminated to the outside faces of the legs and the layer of plastic laminate is adhered to the paper label.

In one embodiment of the invention, the paper label and layer of plastic laminate overwrap the elongated edges of the right-angled member and the paper label is adhered to the inside faces of the right-angled member. The first and second elongated edge portions of the plastic laminate and paper label may overlap at the inside face of the apex of the right-angled member.

The layer of plastic laminate provides a protective barrier which keeps the core of paperboard plies dry and thereby prevents damage and wear and tear to the paperboard plies. The layer of plastic laminate further provides durability and strength to the edge protector. The layer of plastic laminate prevents the paperboard core from marking the product being shipped.. The paper label and plastic laminate give the edge protector a cleaner look as compared to the edge protectors taught by the prior art.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the invention are described herein below with reference to the attached drawing figures, wherein:

Figure 1 is a perspective view of a preferred embodiment of the elongated edge protector of the present invention.

Figure 2 is an exploded view of the edge protector showing the core member of paperboard plies, the paper label, and the layer of plastic laminate.

Figure 3 is an end view of the edge protector having the paper label and plastic laminate adhered to only an outside surface of the core member.

Figure 4 is an end view of the edge protector having the paper label and plastic laminate overwrapping the elongated edges of the core member.

Figure 5 is an end view of the edge protector wherein a first edge portion of the paper label and plastic laminate overlies a second edge portion of the paper label and plastic laminate.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the preferred embodiment of the present invention described in detail below, an elongated edge protector for protecting an edge or corner of an article is provided.

5 Referring to Figures 1 and 2, the elongated edge protector 10 includes a plurality of paperboard plies 12 laminated together and formed into a rigid substantially right angled core member 14. The right angled core member 14 includes a pair of transversely oriented legs 16, 18 joined at a substantially curved apex 20. Each of the legs 16, 18 has an inside face 22 and an outside face 24.

10 Referring to Figure 2, a paper label 26 is laminated to the outside face 24 of each of the transversely oriented legs 16, 18. The paper label 26 may be colored white, or some other light color to give the edge protector 10 a cleaner look as compared to the edge protectors taught by the prior art. The paper label 26 alternatively may be a dark color to disguise any visual markings or wear and tear.

15 A layer of plastic laminate 28 is adhered to and overlaps the paper label 26. While the embodiments of the invention depicted include the paper label 26 sandwiched between the layer of plastic laminate 28 and the core member 14, it is contemplated that the elongated edge protector 10 could be constructed without the paper label 26, wherein the plastic laminate 28 is adhered directly to the core member  
20 14 of paperboard plies 12.

Referring to Figures 3-5, the edge protector 10 of the present invention may comprise several different embodiments. For example, in the embodiment shown in Figure 3, the paper label 26 and layer of plastic laminate 28 is adhered to the outside face 24 of each transversely oriented leg 16, 18. Specifically, multiple lines of adhesive  
25 are applied to the outside face 24 of each leg 16, 18 and the paper label 26 is adhered thereto. Likewise, multiple lines of adhesive are applied to the outer surface of the paper label 26 and the plastic laminate is pressed into contact with the paper label.

In the embodiment shown in Figure 4, the paper label 26 and layer of plastic laminate 28 overwrap the elongated edges 30 of the core member 14, and the  
30 paper label 26 is adhered to both the inside face 22 and outside face 24 of each transversely oriented leg 16, 18. The plastic laminate 28, in turn, is adhesively attached

to the paper label 26. In the embodiment shown in Figure 5, a first edge portion 32 of the paper label 26 and layer of plastic laminate 28 overlie a second edge portion 34 of the paper label 26 and plastic laminate 28. The first edge portion 32 may overlie the second edge portion 34 at various points along the core member 14. In the embodiment  
5 shown in Figure 5, the first edge portion 32 overlaps the second edge portion 34 at the inside face 36 of the curved apex 20. Additionally, the first edge portion 32 is adhered to the second edge portion 34 and the second edge portion 34 is adhered to the inside face 36 of the curved apex 20.

The edge protector 10 may thus be utilized to protect the corners and/or  
10 edges of items being shipped or transported from one place to another. The layer of plastic laminate 28 provides structural support and reinforcement to the core member 14 of paperboard plies 12. The plastic laminate 28 can be selected from many specific thicknesses and materials, depending upon cost and durability criteria. Further, the plastic laminate can be either clear or colored, depending on user requirements.

15 However, it is important that the selected plastic laminate be sufficient to protect the paperboard plies 12 from damage and repels wetness or moisture encountered during exposure to, for example, rainy or wet weather.

While this invention is susceptible to embodiments in many different forms, the drawings and specification describe in detail a preferred embodiment of the  
20 invention. They are not intended to limit the broad aspects of the invention to the embodiment illustrated. It should be understood that the drawings and specification are to be considered an exemplification of the principles of the invention, which is more particularly defined in the appended claims.